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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JEFFREY SCOTT CHASE and RONALD P. DOYLE

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Appeal 2009-007104  
Application 09/894,016  
Technology Center 2400

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Before: JOHN A. JEFFERY, DEBRA K. STEPHENS, and  
JAMES R. HUGHES, *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

Appellants appeal under 35 U.S.C. § 134(a) (2002) from a final rejection of claims 1-9. We have jurisdiction under 35 U.S.C. § 6(b) (2010).

We REVERSE.

### *Introduction*

According to Appellants, the invention is a system, method and computer program for hierarchical load balancing. Popular object requests are handled using a front-end cache. Hashing is applied only to requests in the stream not handled by the front-end cache. A cache, placed in front of a Level 7 switch, handles popular requests from the cache based on the content of the request. Remaining requests are hashed and then routed to a back-end server. (Specification 1 and Abstract).

### STATEMENT OF CASE

#### *Exemplary Claim*

Claim 1 is an exemplary claim and is reproduced below:

1. A system for improved load balancing in a client/server environment, comprising:

at least one caching/hashing switch (CHS) coupled between clients and servers in said client/server environment, said CHS storing previously-requested objects, said CHS comprising:

a hashing switch coupled to said servers; and

a front end cache coupled between said clients and said hashing switch;

wherein object requests for objects stored in said CHS are satisfied immediately from said CHS.

### *References*

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Colby	US 6,006,264	Dec. 21, 1999
Cieslak	US 6,240,461 B1	May 29, 2001 (Filed Oct. 8, 1997)

Appellants' Admitted Prior Art in the Specification (AAPA)

### *REJECTIONS*

Claims 1-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA and Colby. (Ans. 4-6).

Claims 2-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA, Colby, and Cieslak. (Ans. 6-7).

### *ISSUE*

#### *35 U.S.C. § 103(a): claims 1 and 9*

Appellants assert their invention is not obvious over AAPA and Colby because the Examiner's combining the applied references to arrive at the claimed invention is a "piecemeal approach [and] is a clear application of hindsight [reasoning]" and that "nothing in Colby even remotely suggests the placing of a front-end cache in front of a hashing switch, and immediately serving objects from the cache back to the client when they are stored in the cache." (Br. 7). Specifically, Appellants contend the Examiner

is essentially arguing that the mere existence of hashing switches and caches, and Colby's teaching of a content-aware flow switch of Colby, makes it obvious to combine these features which would result in the present invention of placing a front-end cache in front of a hashing switch, and immediately serving objects from the cache back to the client when they are stored in the cache (Br. 7 and 8).

The Examiner finds Colby teaches a Content-Aware Flow Switch (CFS) that is coupled between clients and servers (Ans. 7). The Examiner further finds the CFS includes a Content Server Database (CSD) for identifying whether the requested content is at a local server and if not, performing the switching function, e.g., redirecting, the request to a remote server, which the Examiner finds equivalent to a cache for immediately serving a request. (Ans. 7 (citing Fig. 3, and corresponding details)). The Examiner then finds that the combination of this teaching with the AAPA would have led one of ordinary skill in the art to a hashing switch that provides a caching function, as claimed (Ans. 7 and 8).

*Issue 1:* Have Appellants shown the Examiner erred in finding AAPA and Colby collectively have taught or suggested a front end cache coupled between the clients and a hashing switch wherein object requests for objects stored in the caching/hashing switch (CHS) are satisfied immediately from the CHS?

FINDINGS OF FACT (FF)

*Appellants' Invention – Admitted Prior Art*

(1) A URL hashing switch 114 is coupled between the network connection 112 and a server farm 116 (Spec. 4 and Fig. 1).

*Colby*

(2) Colby teaches a method and system for directing content flow between clients and servers. A Content-aware Flow Switch intercepts a client content request and transparently directs the request to the server that best meets specific criteria. The criteria may include the type of content requested, the quality of service requirements implied by the content request, the load on available servers, network congestion, and server/client proximity. (Abstract).

(3) When a content request is sent to a server, the content request is intercepted by the content-aware flow switch 110, which interprets the request as a request to initiate a flow between the client and an appropriate server. A Content Server Database (CSD) is queried for a list of available servers to serve the content request (step 404). The CSD returns a list of candidate servers and an indication as to whether the preferred server is known to be in the local server farm. If the CSD returns provide an ACCEPT indicator (decision step 406), then the content request may be served at one of the local servers 100a-c front-ended by the flow switch 110. If the flow for servicing the content request is able to be assigned to a local server (decision step 412), then a connection is set up with the appropriate local server (using a pre-cached, persistent, or newly-created connection)

(step 426), and the content request is passed to the server (step 428). (col. 8, ll. 34-55 and Fig. 3).

## ANALYSIS

We agree with Appellants. We find that AAPA teaches a hashing switch coupled between a network connection and a server farm (FF 1), and Appellants have admitted hashing switches and caches are known (Br. 7). The Examiner relies on Colby as teaching that the function of the content-aware flow switch is equivalent to immediately serving the client if an object is cached (Ans. 7). The Examiner then contends one of ordinary skill in the art would have recognized that the teaching of Colby could have been adapted to and modified into the convention hashing switch to provide a caching function (*id.*). However, we find that there is a gap between Colby's teaching of the CFS including a CSD which identifies if content is present at a local server, and a cache coupled between a client and the hashing switch such that object requests for objects stored in the cache/hashing switch (CHS) are satisfied immediately from the CHS. Specifically, we find and conclude that the Examiner has not shown that either Colby or AAPA teaches or at least suggests that some type of memory exists between the client and the servers for immediately providing previously-requested objects in response to an object request, or that one of ordinary skill in the art would have been motivated to combine the features based on the cited portions of Colby and AAPA. Based upon our review of the record, we are in accord with Appellants that an artisan would not have reasonably combined the cited portions of the AAPA and Colby references

in the manner suggested by the Examiner *but for having the benefit of Appellants' claim to use as a guide (i.e., impermissible hindsight)*.

Claim 9 recites that the cache is coupled between the network connection and hashing switch and is configured to satisfy requests for the previously requested objects stored in the cache, without passing the requests to the hashing switch (Appendix 15). We are also in accord with Appellants that an artisan would not have reasonably combined the cited portions of the AAPA and Colby references in the manner suggested by the Examiner *but for having the benefit of Appellants' claim to use as a guide (i.e., impermissible hindsight)*.

Accordingly, we are constrained to conclude the Examiner has not shown the combination of AAPA and Colby render the invention as recited in claims 1 and 9.

## ISSUE 2

### *35 U.S.C. § 103(a): claims 2-8*

Appellants assert their invention is not obvious over AAPA, Colby and Cieslak because “[t]he addition of Cieslak [to AAPA and Colby] fails to identify or address the problem solved by the present invention, that is, minimizing the burden on a hashing switch and a server farm (Br. 10). More specifically, Appellants contend that “[i]n the present invention, if an object is cached, it is immediately served back to the client, and thus the object does not have to be re-hashed and the server does not have to re-serve it.” (*Id.*). Appellants state that Cieslak fails to suggest modifying its teachings to arrive at the claimed invention.

*Issue 2:* Has the Examiner erred in concluding the combination of AAPA, Colby, and Cieslak would have taught or suggested the limitations of the invention as recited in claims 2-8?

## ANALYSIS

As set forth above, we conclude the Examiner has not shown the combination of Colby and AAPA renders the present invention as recited in claim 1 obvious. The Examiner has not shown that Cieslak cures the deficiencies and thus, has not shown that the combination of Colby, AAPA, and Cieslak renders the invention as recited in dependent claims 2-6 obvious.

In addition, the Examiner has not shown that the combination of AAPA, Colby, and Cieslak renders the invention as recited in claim 7 and 8. Specifically, the Examiner asserts Colby discloses the invention substantially as claimed and then points to various portions of Cieslak as teaching “hashing an unfound content received from a remote server into the cache” (Ans. 6 and 7). However, the Examiner does not fully explain how the cited references, Colby, AAPA, and Cieslak teach or suggest each of the limitations recited in claims 7 and 8.

The *prima facie* case is a procedural tool of patent examination, allocating the burdens of going forward as between examiner and applicant (*In re Spada*, 911 F.2d 705, 707 nn.3, 15 (Fed. Cir. 1990)). The term “*prima facie* case” refers only to the initial examination step (*In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984); *In re Rinehart*, 531 F.2d 1048, 1052 (CCPA 1976)). As discussed in *In re Piasecki*, the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a

*prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant.

We conclude that the rejection of claims 7 and 8 lacks the requisite specificity needed for the establishment of a *prima facie* case of obviousness. The Examiner bears the initial burden of presenting a *prima facie* case of unpatentability (*See, In re Oetiker*, 977 F.2d 1443, 1445, (Fed. Cir. 1992)), and that burden has not been met in a manner enabling proper review.

Therefore, we are constrained to conclude the Examiner has not shown Colby, AAPA, and Cieslak teach or suggest the invention as recited in claims 7 and 8.

#### DECISION

The Examiner's rejection of claims 1 and 9 under 35 U.S.C. § 103(a) as being obvious over AAPA and Colby is reversed.

The Examiner's rejection of claims 2-8 under 35 U.S.C. § 103(a) as being obvious over AAPA, Colby and Cieslak is reversed.

#### REVERSED

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